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CHANGES IN SPATIAL DEVELOPMENT IN THE CZARNA PRZEMSKA VALLEY ON THE STRETCH FROM THE BRYNICA ESTUARY TO THE CONNECTION WITH THE BIAŁA PRZEMSKA, FROM THE 18TH CENTURY TO MODERN TIMES

Abstract

The aim of this study was to recreate the spatial development of the Czarna Przemsza River valley, shaped as a result of high intensity human impact. Reconstruction of the study area landscape was based on cartographic sources referring to particular study periods, i.e. the 18th, 19th, 20th and 21st centuries. The final effect of the interpretation of the maps was to draw up the land cover profiles, which enabled a comparative analysis of landscape changes within the valley. The study revealed differences between the two sides of study area and showed that the diversification identified is also evident today.

Key words: Mysłowice, Sosnowiec, Czarna Przemsza river, spatial development, landscape profile

Słowa kluczowe: Mysłowice, Sosnowiec, Czarna Przemsza, zagospodarowanie przestrzenne, profil krajobrazowy

INTRODUCTION

Each element of geographical space is a carrier of information about the past. The natural environment has been shaped by man for centuries, which means that at present there are virtually no places in the world showing no signs of human impact. The degree of transformation depends on the form of land development; it is different in the case of rural areas than in urban or industrial areas. Factors change with time and together with them also the conditions

shaping the geographical space change. Then, significant changes in structural elements of the environment take place due to the evolution of the landscape.

The specificity of studies on the evolution of natural, cultural, political and historical landscapes is interdisciplinary¹. Regardless of which elements of the space are under examination, they always refer to a change in time (i.e. history) and space (geography). Any changes to the landscape take place against the background of specific historical events, including wars, political divisions, and colonization. They frequently make a region unique in the country, both in terms of the importance of a greater whole, and in the form of development or intensity of investment.

Rivers are one of the most important elements of geographical space. Most often, they constitute axes of the regions along which spatial development progresses; they also create regional, political or administrative borders². With such a presentation of the issue, the aim of the research was to reconstruct spatial development at particular stages of the shaping of the Czarna Przemsza valley. The spatial extent included a fragment of the valley of the river from the estuary of the Brynica to the connection with the Biała Przemsza. The selection of the study area was dictated by an attempt to show the diversity of investment between the two sides of the valley, which once were under the supervision of two empires, differently developed economically: the Russian Empire (the Polish Kingdom) and the German Empire (the Prussian Empire). The study was based on archival cartographic sources and complemented by written sources — primary and secondary. This enabled the presentation of the scale of changes in development and reconstruction of the physiognomy of the studied segment of the Czarna Przemsza valley at different stages of evolution, i.e. from the 18th to the 21st centuries.

MATERIALS AND METHODS

The reconstruction of the spatial development state of the Czarna Przemsza valley in various stages of development, i.e. the 18th, 19th, 20th and 21st centuries, was based on four basic archival cartographic materials. The oldest map shows the area of Katowice in the mid-18th century, and it was made by Friedrich Christian von Wrede (its reprint on a scale of 1:33,333 was used)³. The

¹ U. Myga-Piątek, *Historia, metody i źródła badań krajobrazów kulturowych*, „Problemy Ekologii Krajobrazu: Struktura przestrzenno-funkcjonalna krajobrazu”, Vol. XVII, eds. A. Szponar, S. Horska-Schwarz, Wrocław, 2005, pp. 71–77.

² See: T. Zipsier, *Rzeki a kształtowanie się regionów*, in: *Rzeki: Architektura i Krajobraz*, ed. Z. Konopka, „Śląsk”, Katowice 2002, pp. 36–49.

³ *Okolice Katowic w XVIII wieku*, scale: 1 : 33 333, Friedrich Christian von Wrede, 1750 [estimated].

spatial structure of the valley in the following century was presented based on the *Topographie zur Flözkarte des Oberschlesischen Steinkohlenbeckens Sect. Myslowitz* of 1902 (the original in a scale of 1:10,000)⁴. In order to reflect changes in spatial development in the 20th century, the *Topographische Karte Blatt Kattowitz* of 1942 was selected (the original on a scale of 1:25,000)⁵. The contemporary century was presented on the basis of the Plan for the City of Mysłowice, covering the examined fragment of the Czarna Przemsza valley (the original on a scale of 1:21,000)⁶. Preparation of cartographic sources for analyses required the use of GIS software, in which maps were calibrated and given geo-references in the PUWG 1992 coordinate system (EPSG: 2180). For this purpose, a topographic map on a scale of 1:50,000 was used⁷.

In the analytical procedure, a reference was also made to other cartographic materials that complemented the content of basic maps and city plans. They frequently differed in their dates of origin, which allowed the consequences of various forms of land use to be established. In addition, they provided more detailed information on the original appearance of the city⁸, the location of coal mines⁹, the old and the new riverbed of the Czarna Przemsza in 1930¹⁰, and the location of the sandpits, etc.¹¹.

The content of maps and city plans was further complemented by the information contained in the iconography depicting various forms of development in the valley of the Czarna Przemsza (including regulatory activities, development of surrounding towns, industrial landscape, etc.). During the research, it was necessary to verify cartographic materials, which consisted of questioning, evaluation, and separation of true information from false¹². This resulted from several features which differentiated the materials obtained: the time of creation, the degree of generalization (scale), orientation (western, northern, etc.), the content (subject range) and the intended use (mining, topography). It

⁴ *Topographie zur Flözkarte des Oberschlesischen Steinkohlenbeckens Sect. Myslowitz*, scale 1 : 10,000, APK ref. no. OBB III 180, 1902.

⁵ *Topographische Karte Blatt Kattowitz*, 1942, scale: 1 : 25 000.

⁶ *Plan miasta Mysłowice*, scale 1 : 10 000, Kartograficzne PGK Press, Katowice, 2009.

⁷ *Mapa Topograficzna Polski*, M-34-63-A Katowice, scale 1 : 50 000, Główny Geodeta Kraju, Warszawa, 1996.

⁸ W. Pochmara, *Z dziejów Mysłowic, „Śląsk”*, Katowice (insert) 1963.

⁹ Paul Raschdorff's *Übersichts-, Gruben- und Hüttenkarte des oberschlesischen (preuss.), mährisch-ostrau-karwiner (österreich.) und russisch-polnischen Industriebezirks*, scale: 1 : 125 000, Oswald M., 1901; *Karta Geognostyczna Zagłębia Węglowego w Królestwie Polskim*, scale: 1 : 20 000, Naczelný Zawiadowca Kopalń Jan Hempel, 1856.

¹⁰ *Stadtplan Myslowitz*, scale 1 : 4 000, APK ref. no. zb. kart. I 601, 1940 [estimated].

¹¹ *Plan miasta Sosnowca*, scale: 1 : 20 000, Wydział Mierniczy Zarządu Miejskiego w Sosnowcu, APK ref. no. zb. kart. I 98, 1936.

¹² B. Miśkiewicz, *Wstęp do badań historycznych*, PWN, Warszawa–Poznań, 1985.

should also be remembered that the state presented in the cartographic sources, as a rule, is much older than the year of the map's publication. In this type of analysis, the researcher's knowledge about the region which is not based on sources is also important because it makes it possible to avoid a substantial part of the interpretative distortions.

The registered cartographic materials were listed in a chronological order to make it possible to illustrate the sequence of changes, or overlapping of the elements of the spatial structure of the valley. The next step was digitalization, together with the generalization of the content of maps (elements with linear sizes of less than 20 metres were classified into adjacent larger units) to several groups of land cover types: forests, grasslands and scrubs, wetlands, residential and services development, streets and market squares, watercourses, industrial buildings. This procedure facilitated the interpretation of spatial changes and restoration of landscape profiles for particular years, based on maps reduced to one scale — 1:50,000. Landscape diameter lines were run in such a way so as to cover the greatest diversity of spatial development on both sides of the valley in the section of 3.4 kilometres (fig. 1).

The research procedure refers to the evolutionary method, which is carried out in chronological order, often with the separation of particular phases of development¹³. It is assumed that any development of the area may be stopped at any time and a thorough analysis of its spatial development may be performed¹⁴. In order to restore the state of development, a retrogressive method was also applied, referring to cartographic sources from previous years. In addition, field studies were conducted which provided information about the physiognomy of particular areas not only from the contemporary period, but also about historical buildings from previous centuries. Each area of the valley bears the signs of human activities that constitute artefacts of its former structure.

The final stage of the study was to relate the results of the land cover profile analysis and cartographic materials to the information contained in written sources. For this purpose, both scientific literature as well as original historical texts were used¹⁵, such as historical monographs of towns of 1863, memoirs,

¹³ U. Myga-Piątek, *Historia, metody i źródła badań*, op. cit.

¹⁴ M. Koter, *Od fizjonomii do morfogenezy i morfologii porównawczej. Podstawowe zagadnienia teoretyczne morfologii miast*, in: *Zagadnienia geografii historycznej osadnictwa w Polsce*, Uniwersytetu Mikołaja Kopernika Press, Uniwersytetu Łódzkiego Press, eds. M. Koter, J. Tkocz, Toruń-Łódź, 1994, pp. 23–32.

¹⁵ J. Lustig, *Geschichte der Stadt Myslowitz in Ober Schlesien*, In Kommission bei S. Schäfer, Myslowitz 1867; A.O. Klaubmann, *Oberschlesien vor 55 Jahren und wie ich es wieder fand*, Fritz und Carl Siwinna, Berlin-Breslau-Kattowitz-Leipzig 1911, *idem*, *Górny Śląsk przed laty*, translated by A. Halor, Muzeum Historii Katowic, Katowice 1997, pp. 187–189.

historical monographs of the Corner of Three Empires of 1910¹⁶, information and planning documents¹⁷, official documents¹⁸ and newspapers 19th (*Czytelnia Niedzielną, Kurjer Warszawski*) and 20th (*Kurier Śląski, Polska Zachodnia*) centuries.

STUDY AREA AND CHANGEABILITY IN THE FUNCTIONS OF THE CZARNA PRZEMSKA

The Czarna Przemsza is one of the source watercourses of the Przemsza — a left bank tributary of the Vistula. Its main tributary is the Brynica, and these rivers have repeatedly changed the direction of their course in the past. In the area of Mysłowice (in the Mysłowice Valley), the Czarna Przemsza coincides with the Biała Przemsza and together they form the Przemsza. The lower course of the river lies within the Katowice conurbation, classified as one of the most urbanized areas in Poland. The Czarna Przemsza has influenced the spatial development of its surroundings for centuries. Originally, the river allowed for the defence of the newly established settlements, as well as the development of agriculture and fisheries. Practically from the very beginning, the Czarna Przemsza served transportation functions in the direction of Cracow, which gave rise to the first settlements and later on, towns. The development of settlement in this area dates back to the Middle Ages, but the intense transformation of the natural environment is associated with industrialization, progressing since the 18th century. It was especially strongly highlighted since the 19th century, which saw the development of the iron and steel industry and mining. A significant aspect concerned the river as a barrier, and its political function, especially from the 18th to the early 20th century, was associated with the establishment of the so-called Corner of Three Empires (the common name of it is the Triangle of Three Emperors) at the confluence of the Biała Przemsza and the Czarna Przemsza, which greatly contributed to the diversification of spatial development on either side of the valley. The political division of Europe from this period and the formation of a junction of three European Empires at the confluence of the Biała Przemsza and the Czarna Przemsza, led to the development of tourism. This place was visited by 3–8 thousand people from Western

¹⁶ H. K e g e l, *Von Myslowitz nach Slupna*, in: *Von der Drei-Kaiserreich-Ecke. Geschichtlich-kulturelle Episoden*, Phönix-Verlag. Inh. Fritz und Carl Siwinna, Kattowitz–Breslau–Berlin 1910.

¹⁷ *Informacja dotycząca przebudowy śródmieścia miasta Mysłowice*, Prezydium Miejskiej Rady Narodowej w Mysłowicach, Mysłowice 1973.

¹⁸ *Opracowanie ekofizjograficzne dla miasta Mysłowice*, Urząd Miasta Mysłowice, Mysłowice 2005.

Europe weekly, the offer included cruises to Cracow¹⁹. The area of the Przemsza, Czarna Przemsza and Brynica is currently the frontier of Lesser Poland and Upper Silesia, which was shaped in the Middle Ages under the political influence of settlement development and church jurisdiction. In present times, the river is an administrative border between Sosnowiec and Mysłowice.

As a result of many years of transformations, a high degree of anthropogenic transformation is observed today, not only within the valley, but there even have been many interventions of human activity in the riverbed²⁰. This area is located in one of the most urbanized areas of Poland, and the river, including its tributary, the Brynica, has been carrying pollution from a large area of the Katowice conurbation for years.

CHANGES IN SPATIAL DEVELOPMENT OF THE CZARNA PRZEMSA VALLEY

A comparative analysis of the degree and the form of spatial development between the eastern and western sides of the Czarna Przemsza valley was made as a result of the interpretation of land use profiles corresponding to each of the designated periods.

The original spatial development of the valley until the 18th century — Spatial development on the western side of the Czarna Przemsza valley progressed much faster. Already in the 13th century, a dwelling owned by the Mysłowice owners functioned in the area, and to the south of it, a location town was founded, with wooden development. The town centre was a market square and its transportation system was formed by three streets leading towards Bytom, Mikołów and Cracow²¹. At that time, Mysłowice was located between the Czarna Przemsza (in the east), and vast forest areas (in the west), to the north and south, there were flood plains along oxbow lakes and streams cutting through meadows (fig. 1A)²². In the 18th century, the valley was not highly developed, which is confirmed by the drawn up profile that runs through the development over a length of approximately 800 m (23.5% of the profile length), and through meadows, backwaters and fields at the length of 1.7 km (fig. 1A).

On the eastern side of the river valley, the first villages were created much later, as records date back to the 16th century, providing information about the

¹⁹ A. Sulik, *Historia Mysłowic do 1922 r.*, Urząd Miasta Mysłowice, Mysłowice 2007.

²⁰ See: *Osadnictwo nad Przemszą i Brynicą w średniowieczu*, eds. J. Sperka, S. Witkowski, Liceum Ogólnokształcące im. Stanisława Staszica w Sosnowcu, PTH Oddział w Cieszynie, Sosnowiec eds. J. Sperka, S. Witkowski, Cieszyn 2005.

²¹ W. Pochmara, *Z dziejów Mysłowic*, op. cit.

²² *Okolice Katowic w XVIII wieku*, op. cit.

fishing village of Niwka, and north of it, Nowa Niwka was established in the 17th and later on, a riverside village was also set up²³, which created the origins for the later Modrzejów. However, these were much less developed villages, with Modrzejów, which received its municipal rights later and its market square with wooden houses developed (fig. 1A). The line of the (eastern) profile is dominated by meadows and flood plains, which occupy approximately 2.3 km of its length (67.6% of the profile length), while built-up areas occupy only about 350 m (8.8%) (fig. 1A).

An analysis of the 1750's map and a comparison of landscape profiles lead to the conclusion that at this stage in the evolution of landscape, there was no clear differentiation in spatial development between the eastern and western banks of the Czarna Przemsza. In the 18th century, the Czarna Przemsza valley was occupied by small towns and settlements divided by still virgin forest complexes, meadows and wetlands. These areas were intersected only by unpaved, muddy forest or field roads, whose usage depended on the season, and frequently also on weather conditions.

Development of industry and railways in the 19th century — In that century, a clear diversification in spatial development was already highlighted. Even though in the studied area of Prussia one urban centre developed, the invested area was significantly greater than in the case of the Polish Kingdom, where two towns functioned (fig. 1B)²⁴. This differentiation is well illustrated by profiles of land cover, on which the difference in the length of the invested-in segment, i.e. developed for human activity, between the eastern and western parts of the Czarna Przemsza valley is up to 1.3 km, with the profile lengths of 3.4 km (fig. 1B).

The 19th century faced the development of the industrial landscape of the Czarna Przemsza, valley, but mainly on its Prussian side. The first mines and ironworks were established by the river already in the 1820s and 1830s. In the Pański Pond area on the Czarna Przemsza (whose spread between the northern and southern shores in a straight line was over 800 m), the *Sophia* steel mill was founded, together with barracks for workers. In addition, a dike was made in the pond to transport iron ore on horse-drawn trains²⁵. At a distance of 600 m from the mill to the west, the mines of *Danzig* and *Neu Danzig* were established, which gave origins to the “Mysłowice” mine in 1865²⁶. The economic boom and the subsequent creation of new jobs contributed to the expansion

²³ *Ibidem*; M. Kantor-Mirski, *Z przeszłości Zagłębia Dąbrowskiego i okolic. Szkice monograficzne z ilustracjami*, vol. 2, issue. 13 i 14, Wyd. Towarzystwa Naukowego Zagłębia Dąbrowskiego, Sosnowiec 1932, p. 194.

²⁴ *Topographie zur Flözkarte des Oberschlesischen...*, *op. cit.*

²⁵ *Ibidem*.

²⁶ *Paul Raschdorff's Übersichts-, Gruben- und...*, *op. cit.*

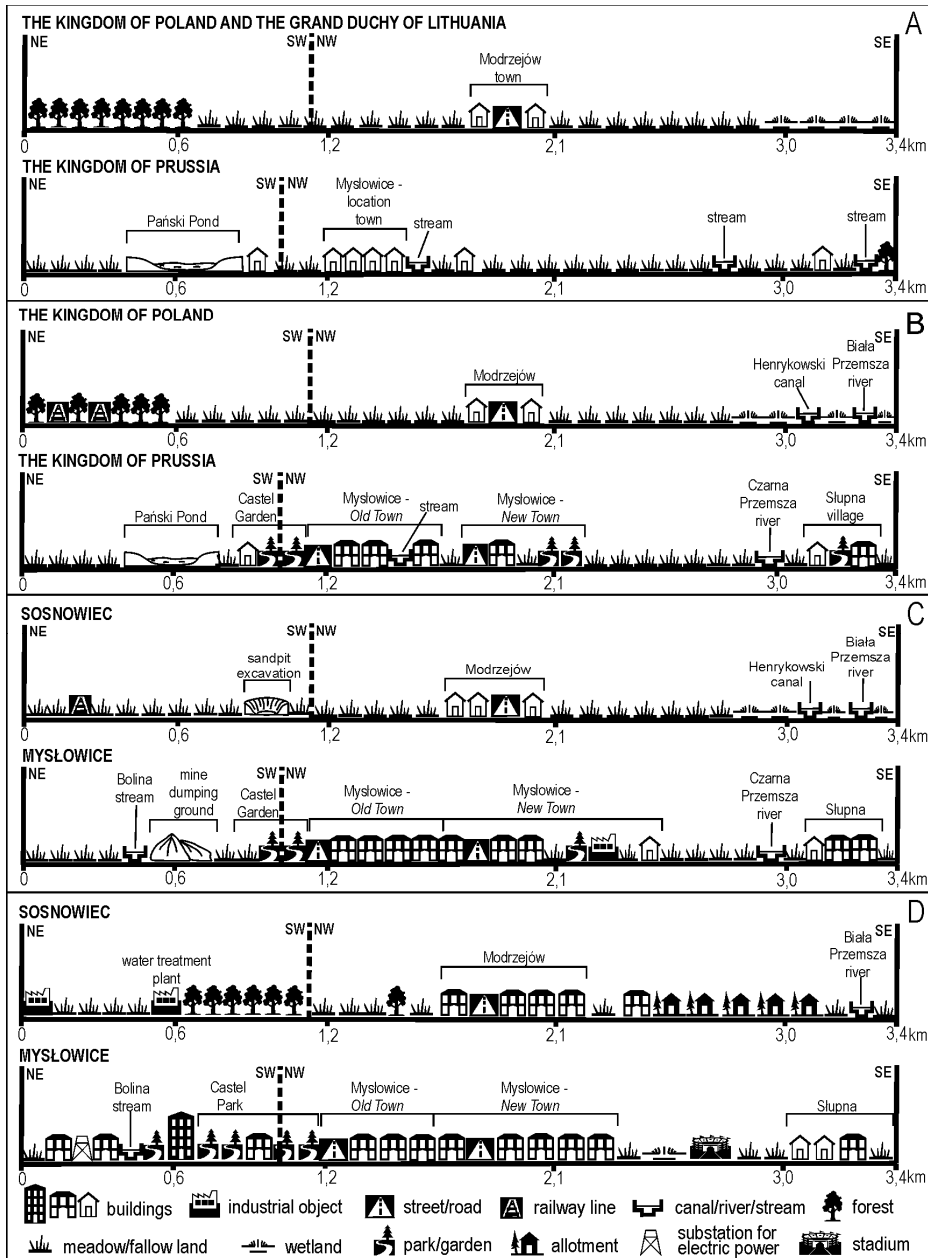


Fig. 1. Land cover profiles of west and east parts of Czarna Przemsza river valley in 1750 (A), 1902 (B), 1942 (C) and 2004 (D)

Source: author's own study.

of residential and commercial areas and the exchange of the existing wooden development to stately brick houses (fig. 1B). The establishment of mines led to the construction of a workers' housing estate north of the location market. The location of the train station in the south of the old town of Mysłowice, in turn, led to the creation of a new and exclusive part of town, the so-called *New Town* (fig. 1B)²⁷.

The development of metallurgical and mining industries meant that towns located on the navigable Czarna Przemsza (and further the Przemsza and the Vistula) had the ability to transport coal, for example to Cracow. At that time, on both sides of the river, transshipment ports were created to transfer raw materials onto barges. One of them was located on the eastern side of the Czarna Przemsza at the mouth of the Biała Przemsza. This port was connected to the zinc smelter through a canal (the Henrykow Canal), which is also marked on the prepared profile (fig. 1B). Unfortunately, despite the development of mining and metallurgical industries, the towns in the Polish Kingdom were characterized by economic and urban stagnation, especially in the case of Modrzejów²⁸. Niwka, however, expanded but was not characterized by dynamic growth either²⁹. This was mainly due to the lack of a railway line through these places, which halted their development. Although the forest area decreased, most areas were still covered with meadows, scrubs and wetlands. The areas not invested-in by man covered as much as 85.2% of the profile of the eastern part of the valley, and for comparison, on the Prussian side, it was 49.3% (fig. 1B). However, in the case of the western part, 13% of it (of 49.3%) was taken up by the Pański Pond, which was heavily exploited for economic purposes.

In the 19th century, human expansion in the natural environment enhanced, both on the surface and beneath it, thereby contributing to irreversible damage to the river, and within its valley. Among the new elements of land investment appeared steel mills, coal mines with drainage galleries, railways, etc. However, the landscape of the Czarna Przemsza valley still had areas showing no direct human intervention, with wet meadows with oxbow lakes occurring along the Czarna Przemsza, still not regulated at that time.

Transformations of the Czarna Przemsza riverbed and valley in the 20th century — The following century continued the heavy industry development and building expansion, which led to a strong degradation of the whole valley along with the riverbed of the Czarna Przemsza. In the interwar period, regulatory activities were initiated, which, in consequence, led to a shift of the confluence

²⁷ *Die Stadt Myslowitz*, scale 1 : 1000, 1911.

²⁸ *Karta Geognostyczna Zagłębia Węglowego...*, *op. cit.*

²⁹ *Topographie zur Flözkarte des Oberschlesischen...*, *op. cit.*

of the Czarna Przemsza and the Biała Przemsza (the so-called Corner of the Three Empires) to the east³⁰.

At the beginning of the 20th century, mining affected the valley of the Czarna Przemsza on both sides and with similar intensity. In addition, further focus on traditional industries during the period of centrally planned economy led to irreversible changes not only to the natural environment, but also to the urban space. A transformation of one element of the environment changes the structure of the remaining elements. Mining affects all spheres of the environment, but above all, water relations are disturbed. The Czarna Przemsza water was contaminated with industrial and municipal waste water and it was salted with post-mining water. Moreover, the groundwater level lowered along with the river water table in the bed. This led to changes in the species composition of vegetation in the valley, including an almost complete disappearance of wetlands, and with them the wetland vegetation (fig. 1C)³¹. A change in topography, caused by the storage of mining waste in the immediate vicinity of the river (waste heaps), led to the creation of concave forms in relief and the complete filling of the Pański Pond (fig. 1C). On the shore of the Czarna Przemsza, a line of the so-called (industrial) sand rail was built. Furthermore, both in the western part of the valley (in its northern section) and in the eastern part (in the middle section), there were numerous pits that remained after sand exploitation. This raw material was mainly allocated for stowing in coal mining, and large post-exploitation bowls, whose diameters often exceed 700 m, with time changed into water reservoirs of anthropogenic origin (fig. 1C)³².

An increase of urbanized area throughout the valley was not without significance. Development of buildings and roads took place in Modrzejów and Niwka (areas used by man amounted to 25.1% of the profile length), and a further concentration of building development happened in Mysłowice (areas used by man amounted to 61%). Building development intensified and multi-storey buildings from the period of socialism appeared (fig. 1C), and are also present in the landscape today. The dynamic human pressure highlighted in the valley of the Czarna Przemsza also led to deforestation that covered all the forests in the studied region, and their place was very often occupied by wasteland (fig. 1C)³³.

³⁰ *Stadtplan Myslowitz, op. cit.*; A. Sulik, *Tom II Historia Mysłowic 1922–1945, „Hejme”*, Mysłowice 2011, p. 113; W. Dragan, T. Spórna, *Trójkąt Trzech Cesarzy*, in: *Encyklopedia województwa śląskiego*, ed. R. Kaczmarek, Instytut Badań Regionalnych, Katowice (online: http://ibrbs.pl/mediawiki/index.php/Trójkąt_Trzech_Cesarzy; access: 15.11.2015), 2014.

³¹ *Topographische Karte Blatt Kattowitz, op. cit.*

³² *Ibidem*; *Plan miasta Sosnowca, 1936, op. cit.*

³³ *Ibidem*.

The contemporary chaos and the mosaics of land use — A process of intensive transformation of the environment in the valley of the Czarna Przemsza under the influence of various kinds of human activity has left its mark on both the environmental structure of the valley and the river itself. An analysis of land cover profiles shows a lack of order in spatial development forms and thus spatial disorder (fig 1D). Industrial areas are adjacent to historic buildings, between which multi-family buildings were erected, which are frequently dominant in the landscape. The uncontrolled building development has led to the blurring of boundaries between particular towns (Modrzejów-Niwka) and mixing of development designated for different purposes and of different historical ages³⁴. Additionally, the building development of the Modrzejów market square has undergone a total exchange, and a national road (and then the roundabout) was run across the square, which has completely changed the character of the place. From a public space significant for trade and services, it has changed into space with a dominant transportation function. The historical place of the connection of the Biała Przemsza and the Czarna Przemsza courses in the former Corner of Three Empires, though, does not recall the spatial development from the time of its splendour. On the Mysłowice side, a small outdoor sports stadium was built, which is currently in urgent need of renovation (fig. 1D). Despite the blurring of the differences in economic development between the eastern and western sides of the valley, the difference in the degree and type of land use is still apparent. The western part (formerly Prussia) is characterized by maximum utilization of land for a variety of investments (rail, road, residential, industrial etc.); the area invested-in is marked out virtually on the entire length of the profile (approximately 2.8 km, i.e. 82.3% of the profile length). Some investments were built on flood plains, which, at high water, causes their permanent flooding (e.g. a meek hotel or garages). On the eastern side of the Czarna Przemsza, on the other hand, there are still large undeveloped areas and even a succession of dense afforestation onto unused land. There have also been new investments, including allotments on the banks extending at a length of over 1 km, and in the estuary of the Brynica, the vast complex of a waste water treatment plant — “Sosnowiec-Radocha” (fig. 1D)³⁵. The total length of invested-in areas along the profile is 2.1 km, which represents 61.8% of the profile length (fig. 1D).

³⁴ *Plan miasta Mysłowice, op. cit.*

³⁵ *Ibidem.*

EVOLUTION OF SPATIAL DEVELOPMENT IN THE VALLEY OF THE CZARNA PRZEMSKA IN THE CONTEXT OF WRITTEN SOURCES

Written sources in this case serve as a complementary content to the analysed maps and the interpretation of land cover profiles. They provide a range of information about spatial development of the valley. Most available materials related to the Prussian part, especially the modern period. In order to recreate the period of the Middle Ages, backward inference was used on the basis of subsequent written and cartographic sources.

Presumably the beginnings of settlement on the Czarna Przemsza were related to the dwelling on a hill above the Pański Pond³⁶. On the basis of a reconstruction plan for Mysłowice from the 16th century, it is concluded that with the location of the town under the Magdeburg law (before 1360), the development progressed south of the said dwellings. The town had wooden development concentrated around the market square, with the town hall in the middle³⁷. We learn about the presence of the town hall from the notes about a fire in the town contained in a report from 1669:

God punished our town with a fire that started at the house of Casper Kaprzyk, from the bakery at the rear of the river Przemsza. The fire burnt {seven houses} and the Town Hall and it halted at the house of Woicich Tabak at one end. From the Town brewery and at the other end, it halted at the house of Krzystoph Nowak [...]³⁸.

The town of Mysłowice also had two gates and was surrounded by a then variable wall and a natural boundary on the south was the Struga watercourse and the Czarna Przemsza on the east. In the eastern part of the valley of the river, the mediaeval village of Mrowisko developed, which gave rise to the subsequent town of Modrzejów (it received its municipal rights, though, only in 1706). In contrast, the development of further settlements closely related to the river happened in the 16th and 17th centuries, it was Niwka and north of it, Nowa Niwka (municipal rights between 1775–1785)³⁹. In the last 25 years of 18th century, on the Silesian and Lesser Poland frontier, the first pre-industrial conurbation emerged: Mysłowice-Modrzejów-Niwka. The river at that time

³⁶ J. Lustig, *Geschichte der Stadt...*, *op. cit.*

³⁷ J. Święcicki, A. Tarasiński, P. Nocuń, *Sprawozdanie końcowe z badań archeologicznych Rynku w Mysłowicach, woj. śląskie*, Paniówki [manuscript available in The Museum of Town Mysłowice's], 2001.

³⁸ Cit. by: *Protokolarz albo „Czerwona Księga” Mysłowic*, Urząd Miasta Mysłowice, Centrum Badań Śląskoznawczych i Bohemistycznych Uniwersytetu Wrocławskiego, Societas Scientiis Favendiis Silesiae Superioris, Instytut Górnośląski, Mysłowice–Wrocław–Katowice 2002, p. 46.

³⁹ K. Urbański, *Powstanie, rozwój i zagłada...*, *op. cit.*

was the political border between Prussia and Russia, which should be seen as a causative factor for the formation of a feudal conurbation. At that time, two competing urban centres developed on opposite sides of the border (river) thereby forming the so-called twin towns. In the course of further urbanization processes of this frontier, another urban centre (Niwka) was formed⁴⁰.

In the 18th century, in the area of the Mysłowice dominion, the first zinc and iron smelters appeared, but the truly dynamic development of this sector of the economy came in the 19th century. The industrialization process covered the whole valley of the Czarna Przemsza, which also resulted in the multiple functionality of the river. The “Kurier Śląski” reports that “navigability of the Przemsza contributes to the flowering of mines in the area. In Brzezinka there is a station to reload coal onto barges which carry coal down the river to the Vistula [...]”⁴¹. On the other hand, A. Sulik writes that in the 19th century, on the western side of the valley, a Przemsza river industrial district formed, consisting of five mining areas covering Mysłowice and surrounding villages⁴². In the first half of the century was the time when in the area of the Polish Kingdom numerous mines were established, which provided new development opportunities for the towns. This was the case for Niwka, where a new period of development began with the mining industry and the emergence of the Henryków smelter in 1833⁴³, which was connected with the river port located at the confluence of the Czarna Przemsza and the Biała Przemsza, which survived until 1840⁴⁴. Hugo Kegel describes this place as follows:

From the Russian side, exactly in the Corner of Three Empires, a transshipment point for coal supplies onto the Przemsza is located.⁴⁵

The balance of economic and urban powers in the valley of the Czarna Przemsza was upset in the 19th century due to the development of railway. The railway omitted local frontier towns of the Polish Kingdom, but it was the primary factor in the development of Prussian Mysłowice, forming part of the local landscape of the river valley. From the first half of 19th century the industry developed on both sides of the river, accelerating urbanization, especially in the case of Niwka:

⁴⁰ R. Krzysztofik, *Przygraniczne aglomeracje miejskie w rozwoju osadniczym Polski*, in: *Czas i przestrzeń w naukach geograficznych. Wybrane problemy geografii historycznej*, ed. M. Kulesza, Uniwersytetu Łódzkiego Press, Łódź, 2008, pp. 164–174.

⁴¹ Cit. by: *Widomości potoczne: Mysłowice*, „Kurier Śląski” 167, 22 July 1913, p. 5.

⁴² A. Sulik, *Historia Mysłowic...*, *op. cit.*

⁴³ R. Krzysztofik, *Jeleń — Modrzejów — Niwka: w sprawie XVIII w. założeń miejskich na zachodnich rubieżach woj. krakowskiego*, „Ekspres Zagłębiowski” 5, 1998, pp. 36–45.

⁴⁴ K. Urbański, *Powstanie, rozwój i zagłada...*, *op. cit.*

⁴⁵ Cit. by: H. Kegel, *Von Myslowitz nach Slupna*, *op. cit.*, p. 9.

[...] a lazily winding border river at the bottom with bank meadows, here and there overgrown with bushes, appears to be unchanged. And only when you turn your eyes to the left, toward Niwka, you can see how much has changed on the other side of the border. Churches, houses, schools, factory buildings, ironworks and mines greet us from the shore [...].⁴⁶

The view of the Austrian border, though, which unfolded after crossing the railway bridge by travellers, is described by Józef Ignacy Kraszewski, who, in 1863 was going from the Mysłowice station in the direction of Cracow:

I had time to meditate, moving up through the sands and bushes and longingly looking towards the Kingdom that was visible in a distance in grey fog. My heart ached. On the horizon, a few ribbons of smoke rose into the sky. Were these conflagrations of villages or dulcis fumus of peaceful households ?? [...] Very soon we entered Szczakowa.⁴⁷

The above description by J.I. Kraszewski well illustrates the geographical character of the Austrian and Russian frontier. However, much more information about the scale of disparities in spatial development between the riverside area of the Polish Kingdom and Prussia is provided by Artur Gruszecki's report of 1897:

On the bumpy road on which a carriage falls to the axles in mud, through the "dead forest" bizarre and sad with naked and thin pine trunks, with poor, anaemic-green crowns, going past numerous factories on the left with hideously high red chimneys, we get to a small frontier town, Modrzejów, connected by a long wooden bridge to the Silesian town of Mysłowice. [...] We enter into tidy-kept perfectly paved Mysłowice, with pretty multi-storey houses, with numerous rich shop windows...⁴⁸

A complement to the description is the report of Władysław Ściborowski from which we learn that "[...] next to the town on the Przemsza, there are metallurgical buildings [...]. For the convenience of the workers employed in ironworks and the miners, there are two hospitals in Mysłowice [...]."⁴⁹

In the 20th century, the valley almost lost its natural character. An intensive human interference significantly affected the Czarna Przemsza riverbed. In the years 1928–1936, its course started to be regulated, some sections were further concreted and the bed edges were strengthened. The report from the final stage of regulatory works in 1936 appeared in the "Polska Zachodnia" newspaper:

⁴⁶ Cit. by: A.O. K l a u ß m a n n, *Górny Śląsk przed laty*, op. cit., p.188.

⁴⁷ Cit. by: J.I. K r a s z e w s k i, *Pamiętniki*, Biblioteka Narodowa, no. 207, Seria I, Zakład Narodowy im. Ossolińskich, Wrocław–Warszawa–Kraków–Gdańsk 1972, pp. 173–174.

⁴⁸ Cit. by: A. G r u s z e c k i, *Na górnym Śląsku (Sosnowiec — Mysłowice — Bytom — Opole)*, „Kurjer Warszawski” 168, 1897, pp. 1–2.

⁴⁹ Cit. by: W. Ś c i b o r o w s k i, *Wycieczka do górnego Szląska. Mysłowice, Katowice, Bytom, Tarnowice*, „Czytelnia Niedzielną” 38, 1862, pp. 300–303.

Not for long will the drone of sawmills disappear on the banks of the Czarna Przemsza and Brynica, or will the dry scrape of shovels smoothing concrete walls of the riverbed quiet down. Not for long, because the Council of Ministers approved a plan to build a commercial port on the Czarna Przemsza already three years ago. The construction will commence immediately after the regulatory works are completed.⁵⁰

The function of the proposed project was to relieve railway traffic and allow coal sales to Gdynia using the inland waterway, cheaper than transportation by rail. Plans to build a large coal port were to include water and land in Modrzejów with a total area of 55 hectares. Ultimately, the complex was to consist of the Modrzejów-South port (with two coal bays) and the Modrzejów-North port (two coal bays and one commercial). The construction of the Przemsza-Vistula canal was also provided for as well as two accompanying complexes of transshipment ports in Niwka and Mysłowice. Unfortunately, this investment has never been implemented.

After World War II, the specifics of the structure of the valley were strongly influenced by politics, as well as the centrally planned economy. There were new developments on both banks of the Czarna Przemsza, including multi-storey housing. Targeting the economy on the mining industry was strongly reflected both in the state of the natural environment and in the invested-in areas where technical conditions of the buildings underwent systematic deterioration:

The technical condition of the existing buildings deteriorates with every year. The fact of the rapid technical wear of buildings is very much influenced by restoration of mining conducted by the “Niwka — Modrzejów” mine and partly by the “Mysłowice” mine.⁵¹

In addition, the spatial order was disrupted by introducing the abovementioned new type of multi-family housing between historical buildings. According to the *Information concerning the redevelopment of central district of Mysłowice*⁵², 11-storey buildings were built near the park greenery, separating the residential development from the Czarna Przemsza and the railway line located right on its banks. These buildings integrated into the view from the northern part of location market and they dominate the landscape in modern times. In the 1960s and 1970s, in the eastern part of the Czarna Przemsza valley, the surface of streets was changed and a new development, often multi-storey, was introduced⁵³.

Today, the post-industrial landscape is highlighted in the spatial structure of the Czarna Przemsza valley. There are many post-exploitation hollows of different sizes on both sides of the valleys, associated both with underground

⁵⁰ Cit. by: W. Śiedziński, *Dzieło robotnika polskiego na Śląsku. Reportaż z wielkich robót na Czarnej Przemszy i Brynicy*, „Polska Zachodnia” 267, 29 September 1936, p. 21.

⁵¹ Cit. by: *Informacja dotycząca przebudowy...*, *op. cit.*, pp. 4.

⁵² *Ibidem*.

⁵³ K. Urbański, *Powstanie, rozwój i zagłada...*, *op. cit.*

and opencast mining⁵⁴. Exploitation has also led to changes in hydrological conditions in the area of operation and its immediate vicinity. Currently, across the valley, most of the deep pits that remained mainly after stowing sand exploitation have been filled with water, creating areas for recreation and sports⁵⁵, for example the Hubertus anthropogenic ponds at the estuary of the Brynica to the Czarna Przemsza. In addition, it is planned to create a nature-landscape complex, covering the former workings in the area of Modrzejów⁵⁶.

Moreover, the historical area of the Corner of Three Empires has also transformed and lost its original character. An orderly and little developed part of this place is located only on the Sosnowiec side⁵⁷. On the other hand, the western part, once the most invested-in, is highly degraded today, and the landscape is dominated by unauthorized landfills, the remnants of disused railway bridges and dynamically developing scrubs and forest cover⁵⁸.

CONCLUSION

The original settlement in the studied section of the Czarna Przemsza used the location for the purpose of defence, agriculture and fishery, as well as to power mills and transport raw materials, etc. The river water was then clean, and in some places fairly extensive backwaters formed. The valley was overgrown with meadows and forests, which were interspersed with farmland in proximity of towns. Changes that occurred under the influence of human civilization development have led to serious contamination of river water and the valley has lost its natural character. The most serious and irreversible changes that included all components of the structure of the valley came with the development of industry. The transformation of the landscape from forest and agricultural into industrial and urban happened progressively throughout the period under investigation, but has intensified especially since the 19th century. Throughout the time, the Czarna Przemsza has served a variety of functions and played an important role in the evolution of the valley and its economic and settlement development. The commercial coal port was supposed to be an important pro-

⁵⁴ *Opracowanie ekofizjograficzne dla miasta Mysłowice, op. cit.*

⁵⁵ S. Czaja, *Zmiany stosunków wodnych w warunkach silnej antropopresji (na przykładzie konurbacji katowickiej)*, Uniwersytetu Śląskiego Press, Katowice 1999.

⁵⁶ *Program Ochrony Środowiska dla Miasta Sosnowca na lata 2009–2018*, Urząd Miasta Sosnowca, Państwowy Instytut Geologiczny Oddział Górnośląski, Sosnowiec 2009.

⁵⁷ W. Dragan, T. Spórna, *Trójkąt Trzech Cesarzy, op. cit.*

⁵⁸ J. Runge, W. Dragan, *Funkcja miejsca w kontekście rewitalizacji przestrzeni centrum miasta (na przykładzie Mysłowic)*, „Problemy Ekologii Krajobrazu: Wybrane zagadnienia z problematyki gospodarowania przestrzenią”, vol. 37, 2014, pp. 51–58.

ject of national importance, but due to changes in political and historical events brought about by World War II, the plan has never been executed. Today, the Czarna Przemsza is the administrative border between Mysłowice and Sosnowiec, and it also separates two historical regions — the Upper Silesia and the Dąbrowa Basin, which is also marked in the minds of inhabitants of these cities, similarly to the former Prussian-Russian border. The state of the water of the Czarna Przemsza, though, requires long-term procedures aiming at its improvement throughout the entire Przemsza catchment, which depends not only on the towns across the Katowice conurbation, but also on its surroundings.

The research was conducted on the basis of cartographic materials, which enabled the established goal to be fully achieved. The result of the reading and analysis of the map content came in the form of land cover profiles, separate for the eastern and western parts of the Czarna Przemsza valley. This allowed comparative analyses to be made at various stages of the valley development. A broader view of the changes was provided by written sources (secondary and primary), of which the most valuable and most useful proved to be original texts of press releases, historical monographs or planning documents. Most of the materials used related to the 19th century and later years, while for the previous period a retrogressive method was applied.

The prepared profiles very well illustrate the diversification of the spatial development of the former Polish Kingdom (today a part of Sosnowiec) and Prussia (Mysłowice). Along with the evolution of the valley, territories occupied by man have increased and their changes have been indicated by a share in the accepted profile length. In the western part of the valley it was 23.5% in the 18th century, 50.7% in the 19th century, 61% in the 20th century and 82.3% in the 21st century. On the eastern side of the Czarna Przemsza, the numbers amounted to 8.8%, 14.8%, 25.1% and 61.8%, respectively. Differences in investing, despite the course of time, are indicated even at present, for example in the character of development.

Summary

The aim of this study was to recreate spatial development of the Czarna Przemsza River valley, shaped as a result of human impact. Reconstruction of the landscape was based on cartographic sources referring to particular periods, i.e. the 18th, 19th, 20th and 21st centuries. The final effect of interpretation of map contents was to draw up profiles of land cover, which enabled a comparative analysis of changes in development between the eastern and western parts of the valley. In order to supplement information about the study area, references to written sources — both primary and secondary were also made. The study revealed differences between the two sides of the valley at every stage of its evolution. This diversification is also evident today, particularly in the degree of investment in the study area. Not only has the landscape changed from forest and agriculture to industrial and urban, but also the functions of the Czarna Przemsza River have evolved.